

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-56. (Canceled)

57. (New) A communication device comprising:

means for receiving and discriminating data packets of a second data structure according to predetermined rules on the basis of contents of a predetermined field in a header of the data packets of the second data structure;

wherein the predetermined field carries transmission quality requests as a part of the data packets of the data structure;

means for generating data packets of a first data structure, the first data structure being determined by a first predetermined protocol, the embedding device being adapted to receive the data packets of the second data structure, the second data structure being determined by a second predetermined protocol and to generate the data packets of the first data structure by embedding each of the data packets of the second data structure in at least one of the data packets of the first data structure; and

wherein the embedding device is adapted to adjust an operation mode for at least one of the data packets of the first data structure on the basis of a discrimination result relative to at least one of the data packets of the second data structure.

58. (New) The communication device according to claim 57, wherein the first predetermined protocol is a protocol for sending the data packets over a link.

59. (New) The communication device according to claim 58, wherein the link is a radio link.

60. (New) The communication device according to claim 58, wherein the communication device is adapted to receive the data packets of the first data structure over the link.

61. (New) The communication device according to claim 57, wherein the data packets of the second data structure transport at least one section carrying information regarding the contents of the data packet of the second data structure; and

the means for receiving and discriminating is adapted to analyze the at least one section to thereby discriminate the data packets of the second data structure in accordance with their contents.

62. (New) The communication device according to claim 61, wherein the at least one section comprises packet headers associated with respective protocol layers; and

at least one section comprises packet headers associated with respective protocol layers, the packet headers comprising protocol identification information identifying the protocol with which the contents of the data packet of the second data structure are associated.

63. (New) The communication device according to claim 62, wherein:
the means for receiving and discriminating is adapted to first determine the protocol identification in the packet headers associated with a first higher layer protocol; and
the means for receiving and discriminating is further adapted to compare the protocol identification with stored rules that allocate a transmission reliability mode.

64. (New) The communication device according to claim 63, wherein the means for receiving and discriminating is further adapted to set the transmission reliability mode for the data packets to be discriminated if the protocol identification is among the stored rules.

65. (New) The communication device according to claim 64, wherein:
the means for receiving and discriminating is adapted to determine if the protocol identification is not among the stored rules;
if the protocol identification is not among the stored rules, the means for receiving and discriminating is further adapted to determine the protocol identification in the packet headers associated with a second higher layer protocol; and
if the protocol identification is not among the stored rules, the means for receiving and discriminating is adapted to compare the protocol identification of the second higher layer protocol with the stored rules that allocate the transmission reliability mode.

66. (New) A method for generating data packets having a first data structure, the first data structure being determined by a first predetermined protocol, the method comprising the steps of:
discriminating received data packets of a second data, the second data structure being determined by a second predetermined protocol according to predetermined rules on the basis of contents of a predetermined field in a header of the data packets of the second data structure;
wherein the predetermined field carries transmission quality requests as a part of the data packets of the second data structure;
adjusting an operation mode for at least one of the data packets of the second data structure on the basis of a discrimination result for at least one of the data packets of the second data structure; and
embedding the data packets of the second data structure in the data packets of the first data structure.

67. (New) The method according to claim 66, wherein the first predetermined protocol is a protocol for sending the data packets over a link.

68. (New) The method according to claim 67, wherein the link is a radio link.

69. (New) The method according to claim 66, wherein the step of embedding further includes encapsulating the data packets of the second data structure in the data packets of the first data structure.

70. (New) The method according to claim 66, wherein the step of embedding further includes segmenting the data packets of the second data structure in the data packets of the first data structure.

71. (New) The method according to claim 66, wherein the data packets of the first data structure are passed into an output buffer.

72. (New) The method for generating data packets according to claim 66, further including the step of:

- setting a transmission reliability mode in the data packets of the first data structure containing a given data packet of the second data structure according to the result of the discriminating step for the given data packet of the second data structure;

- wherein the first predetermined protocol supports at least two transmission reliability modes according to which the data packets of the first data structure may be sent;

- the transmission reliability modes are distinguishable at least with respect to rules regarding the retransmission of the data packets of the first data structure;

- wherein each of the generated data packet contains information on the transmission reliability mode according to which each of the generated data packet is to be sent; and

- determining, by a receiver of each of the generated data packet, the transmission reliability modes by which each of the generated data packet was sent.

73. (New) A communication device comprising:

- a discriminator adapted for receiving and discriminating data packets of a second data structure according to predetermined rules on the basis of contents of the data packets of the second data structure;

- an embedding device for generating data packets of a first data structure determined by a first predetermined protocol, the embedding device being adapted to receive the data packets of the second data structure and generate the data packets of the first data structure by embedding each of the data packets of the second data structure in at least one of the data packets of the first data structure;

- the embedding device for setting a transmission reliability mode in each of the data packets of the first data structure prior to sending each of the data packets of the first data structure;

- an output buffer, into which the data packets of the first data structure are passed, the output buffer being adapted to place each data packet of the first data structure in separate queues associated with the transmission reliability mode; and

- wherein the embedding device is adapted to adjust an operation mode for at least one of the data packets of the first data structure on the basis of a discrimination result relative to at least one of the data packets of the second data structure.

74. (New) The communication device according to claim 73, wherein the data packets of the first data structure placed in the separate queues of the output buffer can be handled by a predetermined priority order for the separate queues.

75. (New) The communication device according to claim 73, wherein the first predetermined protocol supports at least two transmission reliability modes according to which the data packets of the first predetermined protocol are sent.

76. (New) The communication device according to claim 75, wherein a first transmission reliability mode comprises rules for retransmission of data packets under predetermined conditions, and a second transmission reliability mode provides for no retransmission of data packets; and

the output buffer is adapted to send out data packets of the first transmission reliability mode that are to be retransmitted with a higher priority than other data packets.

77. (New) The communication device according to claim 76, wherein the first predetermined protocol specifies performing segmentation in order to embed the data packets of the second data structure in the data packets of the first data structure.

78. The communication device according to claim 77, further including a receiving buffer for receiving the data packets of the first data structure over a link, wherein the first predetermined protocol is a protocol for sending the data packets over the link, the receiving buffer comprises:

a first part associated with the first transmission reliability mode for storing the data packets sent in accordance with the first transmission reliability mode; and

a second part associated with the second transmission reliability mode for storing the data packets sent in accordance with the second transmission reliability mode.

79. The communication device according to claim 78, further including:
the first transmission reliability mode being such that the data packets of the first transmission reliability mode are numbered to thereby specify a correct order; and
the receiving buffer adapted to determine the occurrence of a packet delimiter belonging to a packet of the second data structure received.

80. (New) A communication system comprising:
a higher layer for transmitting data packets to a lower layer;
the lower layer for receiving data packets from the higher layer from the higher layer in accordance with transmission quality requests;
wherein peers of the higher layer use the data packets of the higher layer for performing an operation to convey the transmission quality requests to the lower layer; and
wherein the operation to convey the transmission quality requests to the lower layer is dynamic.

81. (New) The communication system according to claim 80, further including:
a predefined field in a header of the data packets of the higher layer and standardizing contents of the predefined field.

82. (New) The communication system according to claim 80, further including:
a control channel for conveying the transmission quality requests from the higher layer to the lower layer.

83. (New) The communication system according to claim 80, wherein the transmission quality requests enable the higher layer to set an operating mode at the lower layer.

84. (New) The communication system according to claim 80, wherein the transmission quality requests comprise Quality of Service (QoS) requirements.

85. (New) The communication system according to claim 84, wherein the Quality of Service requirements are specified by peers of the higher layer, wherein the data packets of the higher layer are embedded at the lower layer.